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Title: Time scales for advection and (de)leptonization in a collapsar

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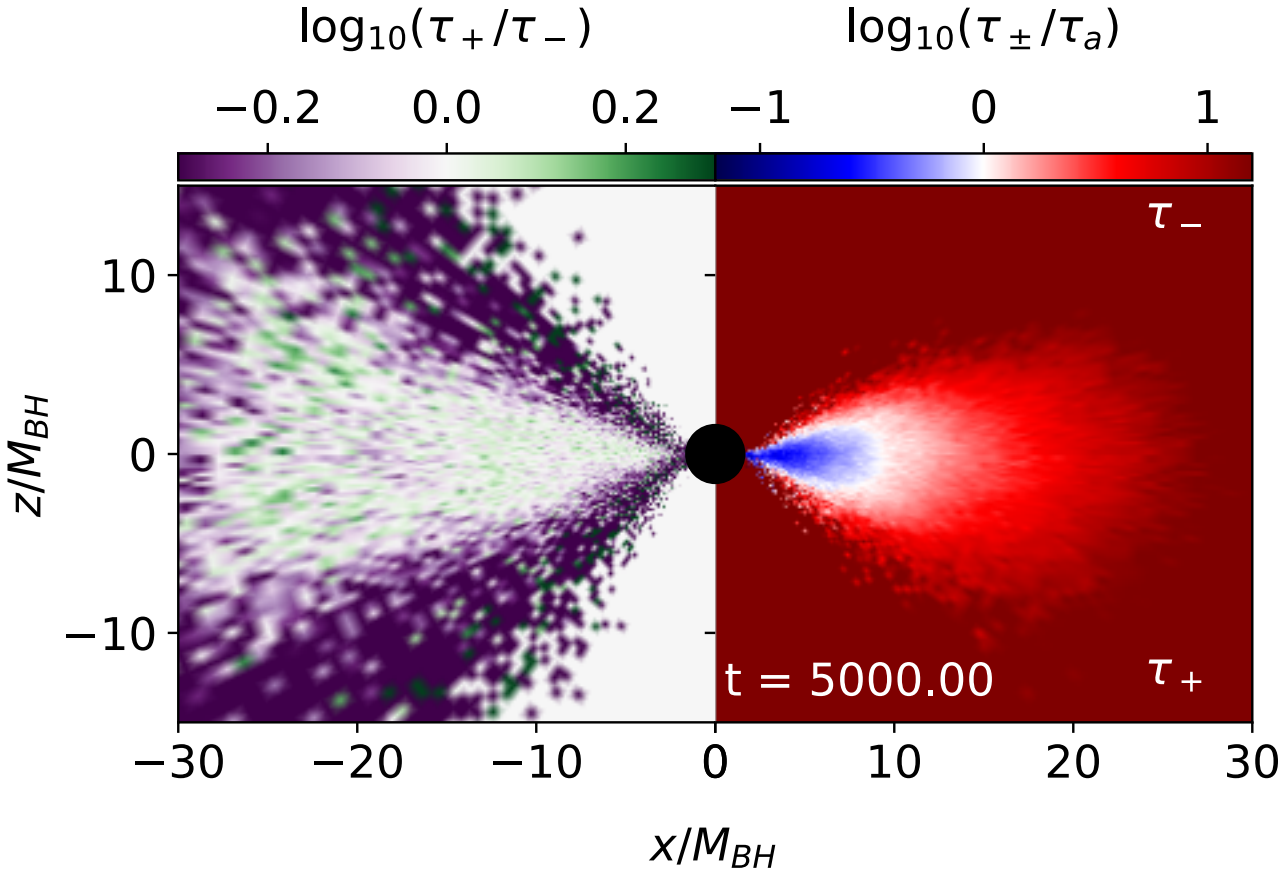

- Characteristic time scales of leptonization (τ_+), deleptonization (τ_-), and fluid motion (τ_a) in a disk of hot gas accreting on to a black hole formed after a failed supernova. These time scales are set by neutrino emission, absorption, and magnetohydrodynamic turbulence, highlighting the complex interplay between the four forces of nature in these enigmatic systems.